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14. ABSTRACT As the US engagement in Iraq and Afghanistan comes to an end, the military must prepare for the inevitable draw down of forces. This moment is especially challenging because the nation is steeped in a financial crisis, which will likely require cuts across all branches of government. At the same time, the military is being directed to expand its presence in the Pacific. The reduction in defense spending combined with the requirement to increase presence and capabilities in the Pacific will force the US military to make tough choices. OSA, which has experienced scrutiny in the past, will likely be one of the programs that are scrutinized. OSA has a long history of providing a valuable service to the military but if it is to survive this scrutiny it must prove its relevance. In order to ensure the future of these OSA assets, during a time of declining military budgets, the Marine Corps must clearly demonstrate its significance. Primarily, USMC OSA needs to demonstrate its wartime capability and increase its lift capacity and efficiency to meet the new requirements in the Pacific.					
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MASTER OF MILITARY STUDIES

TITLE:
**ENSURING A FUTURE FOR
MARINE CORPS OPERATIONAL SUPPORT AIRLIFT (OSA)**

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

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Executive Summary

Title: Ensuring a Future for Marine Corps Operational Support Airlift (OSA)

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Thesis: In order to ensure the future of these OSA assets, during a time of declining military budgets, the Marine Corps must clearly demonstrate its significance. Primarily, USMC OSA needs to demonstrate its wartime capability and increase its lift capacity and efficiency to meet the new requirements in the Pacific.

Discussion: As the US engagement in Iraq and Afghanistan comes to an end, the military must prepare for the inevitable draw down of forces. This moment is especially challenging because the nation is steeped in a financial crisis, which will likely require cuts across all branches of government. At the same time, the military is being directed to expand its presence in the Pacific. The reduction in defense spending combined with the requirement to increase presence and capabilities in the Pacific will force the US military to make tough choices. OSA, which has experienced scrutiny in the past, will likely be one of the programs that are scrutinized. OSA has a long history of providing a valuable service to the military but if it is to survive this scrutiny it must prove its relevance.

Conclusion: If OSA is to survive the upcoming budget cuts it will need to clearly demonstrate its relevancy during wartime. Moving OSA under the control of the Marine Air Wing will achieve this requirement by linking OSA to the Marine Air Ground Task Force. At the same time, OSA must also expand its capability to meet the emerging requirements in the Pacific.

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Preface

I chose to write about Operational Support Airlift (OSA) because I had spent the three years prior to coming to Command and Staff College flying OSA in the Pacific. I was able to see first hand what a tremendous asset OSA provides to the Marine Corps. I hope this paper is valuable in countering any argument for cutting OSA and that it sheds light on some potential ways of improving the way that OSA is currently utilized. I am very grateful to Dr Gelpi, Col Nelson, LtCol Dobes, LtCol Halquist, Maj Vance and Mr Robert Houde for their support and advice in writing this paper. I am especially thankful to my brother Chaz Reetz for the tremendous help he gave me with this paper. I am most thankful to my wife Susan and our two children, Christian and Kayla, for the support through this challenging year.

Introduction:

As the US engagement in Iraq and Afghanistan comes to an end the military must prepare for the inevitable draw down of forces. This was the case at the end of both World Wars, the Korean and Vietnam Wars, as well as Desert Storm. There is no reason to believe this time will be any different. The military must adapt to peacetime, concentrating on preparedness and efficiency, just as the nation was forced to adapt through the same measures to wartime. What makes this moment especially challenging is that as a nation we are steeped in a financial crisis, which will likely require greater fiscal responsibility across all branches of government. At the time of this writing the growing US National Debt was \$16,488,373,334,091¹ and showed no sign of slowing. While the country remains divided, politically and socially, on how we should reduce this debt it is clear we cannot continue on the current path. If it ever was feasible, today it is not. A sizeable reduction in defense spending will no doubt be a highly debated component of the solution.

The draw down in the Afghan and Iraqi theaters does not necessarily equate to a surplus elsewhere. While we are reducing our footprint in the Middle East we are also being called to increase our presence elsewhere. In 2011, during a speech given to the New Zealand Parliament, President Obama directed that the US military pivot its focus towards the Pacific.² Towards China, North Korea, India, Myanmar (Burma) and the North and South China Seas. The shift is due to numerous factors, including emerging economic opportunities and security challenges. In the last two decades, the Pacific and specifically Asia has seen economic growth, which has outpaced the rest of the world. China, who became the worlds largest exporter in 2009, has experienced unprecedented

growth over the last two decades.³ Burma has lived under a repressive government for the last 50 years but may be one of the regions biggest opportunities for future economic growth as they emerge as a democratic state. They are a resource rich country that has been largely untapped because of past government corruption and ineffective economic policies. They are ripe for future economic growth. Asia's economic growth could provide great opportunities for America and her allies, but it has also helped China emerge as much more formidable economic and military threat. In order to ensure that we are able to maintain continued peace and stability as well as free access to the region's markets the US must maintain a military presence both agile and robust enough to counter any emerging threat.

The reduction in defense spending combined with the requirement to increase presence and capabilities in the Pacific will force the US military to make tough choices. Each service will need to go through its budget line by line and eliminate unnecessary spending. In the Department of Defense, Sustaining U.S. Global Leadership: Priorities for 21st Century Defense document President Obama stated that "Our nation is at a moment of transition.... as we end today's wars we will focus on a broader range of challenges and opportunities, including security and prosperity of the Asia Pacific"⁴, he further directed that we must both reduce our spending while continuing to stay ahead on the ever-changing modern battlefield. Among the myriad departments to be scrutinized, the Marine Corps' Operational Support Airlift (OSA) is one that will likely receive a closer look. OSA has come under review in the past because of its reputation as 'jets for generals'. OSA came under considerable scrutiny during the 1960's and 1970's, which resulted in the first DOD wide instruction to address OSA, DODI 4500.43, released on 13

February 1981. The instruction required that the number of OSA aircraft in the DOD inventory be based on wartime requirements.⁵

The abovementioned shift from Middle Eastern war towards the Pacific, during a time of systemic defense cuts, creates a particular challenge for the Marine Corps in defending OSA. Its embattled reputation along with its current lack of linkage to wartime capability make it vulnerable to budget hawks. However, as budget hawks loom so too do the requirements of the Pacific's new landscape. There, OSA, which is able to provide a highly effective and efficient capability to the Marine Air Ground Task Force (MAGTF), will be more valuable than ever because of the geography of the region. The numerous islands spread throughout the region and the distances between them makes air transportation vital. In order to ensure the future of these OSA assets, during a time of declining military budgets, the Marine Corps must clearly demonstrate its significance. Primarily, USMC OSA needs to demonstrate its wartime capability and increase its lift capacity and efficiency to meet the new requirements in the Pacific.

History of OSA:

Man has looked to the sky in wonder since the beginning of recorded time. What if that endless expanse overhead could be brought under our dominion? Many of the greatest minds in history, including Leonardo da Vinci, spent lifetimes trying to figure out a way to achieve flight. The first manned flights were achieved through the use of hot air balloons and kites. Balloons were used extensively during the American Civil War and continued to be used through World War II. While hot air balloons played a useful role in their time they were limited in how they could be employed. They had limited lift

capability and very little maneuverability. In 1903 Wilbur and Orville Wright conducted their historic self-propelled flight of a heavier-than-air craft at Kitty Hawk, changing the landscape of manned flight forever. Five years later, Lt Frank P. Lahm was the first military passenger aboard a Wright Flyer.⁶ Although it would be years before the military would use aircraft as an effective means of transporting people and cargo this can be looked back upon as the beginning of OSA.

Marine Corps aviation began on 22 May 1912, when Lt A.A. Cunningham checked into the Navy's new aviation camp at Annapolis. Cunningham had become fascinated with flying after taking a balloon ride in 1903 and it was only through his own determination that he became the first Marine accepted into the Navy's new aviation program.⁷ Money for Navy/Marine aviation was scarce during the time and Cunningham's actual flying was somewhat limited. His greatest achievement may have been as a proponent of Marine aviation in the Marine Corps Headquarters.⁸ It was his strong advocacy of Marine aviation that allowed the program to grow. Cunningham's persistence was critical to the help persuade top military leaders to include Navy and Marine Corps aviation in World War I.⁹

By the time the U.S. entered World War I in April of 1917, manned flight had made considerable advancements, but the aircraft of the time were still underpowered and unreliable. Besides the technological limitations, the use of aircraft in the war was greatly hindered by a belief of the senior military leadership that this new invention was just a "toy".¹⁰ The senior leadership remained divided between those who believed in the supremacy of land warfare and those who believed in the importance of sea power. There was little room for a third camp. Because of this, the use of aircraft in WWI was limited

and used mainly only as an observation platform for conducting reconnaissance. Because of delays in aircraft manufacturing and delivery most of the Marine aviators who flew in WWI did so in French aircraft. One exception were the Marines of the 1st Marine Aeronautic Company, who were sent to the Azores to help prevent the German's from establishing a refueling station for their U-Boats. They made history in their R-6 seaplanes by being the first American flying unit of any service to be deployed to war fully equipped and trained.¹¹

During the interwar period aviation made great advancements. The headship of Marine Corps Aviation was passed from Cunningham to LtCol Tommy Turner. Turner was a seasoned Marine and a well respected Marine leader. He was known for his strict discipline and made sure that Marine aviation adhered to it.¹² Marine aviation became involved in fighting in Nicaragua where they compiled a remarkable record of cargo transport given the limited capability. Major E.H. Brainard replaced Turner and under his leadership the Marine Corps obtained their first aircraft specifically built to transport cargo, the Fokker. It was Brainard's persuasive abilities along with his connections, he had served as aide to Secretary of the Navy Curtis D. Wilbur, that facilitated the acquisition of the three-engine Fokker transport aircraft.¹³

The US, Japan, Britain and Germany spent a great deal of resources developing new aircraft in preparation for the approaching war. By the outset of the World War II aviation had become an integral part of the U.S. Military. Once the U.S. entered the war, aircraft production was greatly increased. During the war, OSA was greatly expanded and at the height of the war the Army Air Corps, which had the largest number of aircraft, had over 3,000 OSA aircraft.¹⁴ The OSA aircraft were used extensively for movement of

troops and supplies in the continental U.S., as well as in both the Pacific and European campaigns. The Beechcraft C-45 Expeditor was the most widely used light transport aircraft and proved itself a very versatile and reliable aircraft for transporting high priority passengers and cargo.¹⁵ Although the Marine Corps had a smaller fleet of transport airplanes, they also used them throughout the war.

During World War II the Marine Corps transport aircraft fell under a Transport Air Group (TAG) and were largely responsible for delivering the mail and to the many islands and returning with medical evacuees. It wasn't a glamorous job but it was critical to maintaining moral to isolated troops. It was greatly appreciated and added to the moral of Marines on isolated islands throughout the Pacific. One journalist wrote of the TAG "Far out in the Forward Area of the Central Pacific is a military airline system that for my money has done one of the outstanding aviation jobs of the war. This airline is TAG..." Marine TAG flew the R5C Curtis Commando, which was originally designed as a civilian airliner. The Marine Corps acquired 160 R5C aircraft during World War II.¹⁶

During the period following the war, Marine Corps aviation experienced a significant drawdown in its size. In 1945 the Marine Corps had 10,229 pilots and by 1947 that number had been reduced to 1,955.¹⁷ The number of aircraft also decreased significantly, but the Marine Corps continued to utilize operational support airlift. The C-117, which is the military version of the DC-3, was used extensively during the 1950s and 1960s by the Marine Corps. Known as the 'Skytrain', the same name currently used by the C-9, the C-117 is one of the best-known transport plane of all time. Its impressive look added to its prestige.

In 1975 the Marine Corps, in conjunction with the Navy, purchased the first aircraft of the current OSA fleet. The C-9 'Skytrain' is the military version of the DC-9, which had proven itself as a very reliable regional jet for commercial carriers. This purchase was made during the drastic military spending reductions that followed the end of the Vietnam War. It was followed by the purchase of the C-12 in the 1980's. The C-12, which is a military version of the Beech Craft 'King Air' was subsequently used by the Marine Corps in the Middle East during Desert Shield/Storm in 1990-1991. Two C-12s were assigned to 3d Marine Air Wing and based out of Bahrain International Airport. They flew nightly intelligence runs and logged a total of 1297 flying hours, while carrying 1,816 passengers and 59,690 lbs of cargo.¹⁸

In 1999 the Marine Corps began its acquisition of the UC-35, which is the most recent addition to the OSA fleet. The UC-35 is a military version of the Cessna Citation, and was the first OSA aircraft to be deployed in support Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF). One UC-35 was deployed at Al Udeid Airbase in Qatar, but was expanded to two aircraft in 2009 after the increase in Marine forces in Afghanistan. The basing in Qatar has allowed the aircraft to support both OIF and OEF.

OSA Mission, Assets and Laydown:

MISSION

MCWP 3-27, "Operational Support Airlift", is the Marine Corps' doctrinal publication on OSA and defines OSA's mission as "to provide the time sensitive air transportation of high priority passengers and cargo between and within a theater of

war.”¹⁹ Within the six functions of Marine Aviation, OSA falls under assault support and specifically, air logistic support and air evacuation. Marine Corps OSA delivers Marines, equipment and supplies to their intended destination in low-threat environments with extreme efficiency and reliability. OSA bridges the gap between tactical air assets and the cumbersome strategic airlift provided by the Air Force. It gives commanders a responsive and effective way of transporting high priority passenger and cargo without having to use tactical assets, which are better utilized accomplishing their tactical mission. Because OSA provides a similar capabilities whether deployed or at their home bases they have been able to maintain a high level of proficiency at a reduced training cost when compared with tactical assets.

All Marine OSA aircraft are commercial off-the-shelf variant aircraft that have long-proven civilian transport records. By utilizing these types of aircraft the Marine Corps is able to realize a substantial cost savings over what is required to have an aircraft designed from the ground up. The cost savings is continued after purchase because of reduced replacement parts costs and sharing of maintenance best practices with the civilian maintenance industry.

ASSETS

The Marine Corps currently has 27 OSA aircraft, approximately seven percent of the total 390 OSA aircraft in the Department of Defense. This number is based on the results of a 1995 study directed by the Joint Chiefs of Staff to determine the wartime requirement of OSA aircraft. The methodology for determining this number was based on the U.S. military fighting two major regional conflicts simultaneously and the amount of OSA support required to link airlift nodes.²⁰ The Chairman of the Joint Chiefs of Staff is

required to validate the wartime requirement annually and forward a recommendation to the Secretary of Defense for approval, per DOD Directive 4500.56P.²¹

The current Marine Corps inventory of OSA aircraft include the C-12 M/F/W, UC-35 C/D, C-20, and C-9B. Each of these aircraft has specific capabilities and limitations that must be recognized. The aircraft include both turbo prop and jet aircraft, and vary greatly in passenger and payload lift capability. This mix of aircraft is designed to give commanders the ability to support a variety of missions in the most effective and efficient manner. They provide scalable support to the MAGTF.

The C-12 (Figure 2) is the military version of the Beechcraft King Air. It is often referred to as the ‘workhorse’ of OSA. There are currently three versions of this aircraft in the Marine Corps inventory and the primary difference between the different versions is the level of technology in the avionics. The C-12W is the newest model and comes with a full glass cockpit, which includes Proline 21 avionics, the newest avionics technology, allowing it access to GPS instrument approaches which are becoming much more commonplace at modern airfields. The Whiskey version also includes the extended range (ER) fuel tanks that give the aircraft a maximum range of over 2,000 nautical miles. The aircraft can carry up to eight passengers with 500 pounds of cargo. It also has a cargo door, which allows for superior loading of cargo and the seats can be removed, increasing the payload volume and weight capability. The two Pratt & Whitney PT6A-60A turboprop engines provide 1050 shaft horsepower each and allow for a cruising speed of 280 knots. The C-12W aircraft are equipped with encrypted military radios, Mode IV and Mode V capable transponders, and Aircraft Survivability Equipment (ASE) to support deployed operations in low threat environments.²²

The UC-35 (Figure 3) is a medium-range jet aircraft. It is a military version of the Cessna Citation/Encore. The max range is 1,400 miles, but at max range the aircraft has a very limited lift capability. The aircraft can carry up to seven passengers and 300 pounds of cargo with fuel to fly 800 nautical miles, but with fuel to fly max range it can only carry a total of 600 pounds. This aircraft is ideal for transporting commanders and their staff because the interior of the aircraft allows for the passengers to conduct planning meetings during the flight. The design provides a quiet environment where passengers can easily communicate inside of the cabin. The maximum ceiling is 45,000 feet, which is advantageous when trying to avoid severe weather. This aircraft has a max cruising speed of 400 knots. The UC-35 aircraft are also equipped with encrypted military radios, Mode IV and Mode V capable transponders, and ASE to support deployed operations in low threat environments.²³

The C-9B 'Skytrain' (Figure 4) is the military version of the McDonnell Douglas DC-9. The Skytrain is used for fleet logistics support and inter-theater and intra-theater airlift. It is the largest OSA aircraft in the Marine Corps inventory and can carry up to 90 passengers or six pallets. It can also be configured to carry a combination of passengers and cargo. It has a maximum range of 1,739 nautical miles, but, as with the UC-35, there is a significant trade off in lift capability if the aircraft is fueled to achieve max range. The C-9 has two JT8D-91 turbofan engines that each provide 14,500 pounds thrust and deliver a cruising speed of 438 knots.²⁴

The C-20G (Figure 5) is the military version of the Gulf Stream IV aircraft. This is a long-range, high performance aircraft capable of providing intercontinental flights. The two Rolls-Royce MK611 turbo fan engines each provide 13,850 pounds of thrust,

which allows the aircraft a cruising speed of 460 knots.²⁵ Because of the high cost of this aircraft the Marine Corps only has one and it is currently stationed at MCAS Kaneohe Bay and serves the Commanders of Marine Forces Pacific and Marine Forces Central.

LAYDOWN

Marine OSA units are located throughout the Continental US and the Western Pacific (Figure 1). They are stationed at nearly every Marine Corps Air Station (MCAS). The aircraft are assigned to Marine Corps Installations (MCI) East, West and Pacific, reside under a Headquarters and Headquarter Squadron (H&HS) and are flown by MCAS pilots. Flying is usually a secondary job for the OSA pilots who are assigned jobs throughout the air stations. VMR-1, which is located at Cherry Point MCAS, is the exception. They are the only VMR and fall directly under MCAS Cherry Point. MCI directs the table of organization for each of the respective units. If this organization seems confusing, it's not your imagination. It is confusing and this often leads to people outside of the OSA community not understanding what the mission of OSA is or how to utilize them.

Emerging Requirements:

As discussed earlier in this paper, Operational Support Airlift within the Marine Corps is faced with two major challenges. First, in the face of a rapidly constricting defense budget, OSA is vulnerable to being cut if it cannot clearly link its own capabilities to a wartime requirement. The current organizational structure of OSA makes it difficult to substantiate this linkage. Secondly, the shift to the Pacific will require that OSA increase both its lift capability and capacity. The geography of the Pacific region is

one of many islands, spread across great distances. This geography requires a U.S. force capable of responding rapidly through the implementation of aviation assets. If a greater number of Marines will be in the region, or if they are required to respond more often, this will require an increase to the current lift capacity. In order to meet this increased requirement, redistribution of current assets and acquisition of new assets will be imperative. Given the current political and fiscal environment, these challenges will be difficult, though not impossible to overcome. The remainder of this paper will focus on addressing these challenges.

Linkage to Wartime Requirement

OSA's primary function must be to provide a wartime capability. While the peacetime mission is an important component, and one always with an eye to wartime, it is the wartime mission that must remain the focus. There are several regulations and instructions that dictate a specific number of OSA aircraft in the Department of Defense (DoD) must be directly linked to a wartime requirement. As DoD Instruction 4500.43 states in Enclosure 3, "Inventory levels of OSA aircraft shall be based solely on joint wartime readiness requirements. The DoD components shall dispose of those aircraft in excess of joint readiness requirements."²⁶ However, the current Marine Corps usage of OSA aircraft does not clearly tie their existence to a wartime requirement, leaving them vulnerable to predatory budget hawks. In order to address this concern the Marine Corps needs to change the organizational structure and increase combat training and readiness for OSA aircrew.

The current organizational structure, which places the aircraft under the command of Marine Corps Installations, limits the ability for OSA to be used during wartime.

During Desert Shield/Storm, OSA only deployed two of the over eighteen aircraft that were available to participate.²⁷ During the more recent conflicts in Iraq and Afghanistan OSA has been equally underutilized. This underutilization is due to several factors, which include the lack of tactical communications and aviation survival equipment (ASE); but the most important factor is the lack of integration into the Marine Air Wing (MAW). The MAW is the aviation component of the Marine Corps and one of the components of the Marine Air Ground Task Force (MAGTF). The MAGTF is how the Marine Corps fights. As MCDP 1-0 states “The MAGTF is a balanced, air-ground combined arms task organization of Marine Corps forces under a single commander, structured to accomplish a specific mission. It is the Marine Corps’ principal organization for all missions across the range of military operations.” It is this concept that integrates aviation assets with ground combat elements to create a synergetic entity. However, today the OSA remains outside of and generally unused by the MAW. By moving the OSA aircraft under the control of the MAW, OSA would become an indispensable part of this synergy.

One of the most compelling reasons why OSA has been underutilized during the wars in Iraq and Afghanistan is because of the difficulty associated with deploying Marine Corps Installation assets. From the author’s experience he has seen firsthand the difficulty with deploying Marine Corps’ air station’s OSA assets and personnel for an extended period of time because the personnel are needed to perform ground jobs related to the functioning of the air stations. The air stations are typically staffed at 75 to 80 percent of their table of organization (T/O) levels and thus cannot afford to have their personnel deployed for any extended period of time. Herein lies the conflict: The air station’s domain is primarily domestic, while the DoD requirements for OSA extend

beyond this to the theater of war, wherever and whenever it may be. The MAW is designed to deploy overseas; it is expeditionary in nature. Therefore, by placing OSA under the MAW this mindset would permeate the OSA community while also extending its capabilities. As MCDP 1 states “Operating forces should be organized for warfighting and then adapted to peacetime rather than vice versa.”²⁸

Currently, OSA is used in a purely administrative manner. The aircraft are used almost exclusively for transportation between major airports, while training for operations at more austere airfields isn’t conducted. The recently signed urgent needs statement (UNS) to upgrade the C-12W cockpits with night vision goggle (NVG) and compatible lighting is a step in the right direction but this upgrade must also include changes to doctrine and training. Becoming proficient in NVG operations requires a great deal of training, including being able to qualify night systems instructors (NSIs). The MAW is far better structured to be able to provide this type of support. To this end, the author witnessed a similar situation when the C-12W was purchased. The aircraft includes a robust aircraft survivability equipment (ASE) system but it is seldom, if ever, trained to because of a lack of expertise and experience with the system. The MAW already has the resident expertise with training in the use of tactical equipment to include NVGs and ASE, making them much more suited to train aircrew to a level of proficiency in these systems. Such proficiencies would greatly enhance the effectiveness of C-12W aircrew when operating in the kinds of austere environments encountered during deployments and wartime operations.

Moving the OSA aircraft from the Marine Corps Installations to the MAW will not be completed without addressing some challenges. Manpower will be foremost

among them. It is not within the scope of this paper to solve this problem, but only to highlight the problem and look at some possible solutions. Should the OSA aircraft be moved to the MAW, the Marine Corps air stations would still need to retain the aircrew because these individuals fulfill essential ground jobs. So, if the OSA aircraft were moved to the MAW who would fly them? We will look at several different solutions.

One possible solution would be to create civilian billets at the air stations to replace the pilots and thus free up the pilot billets for transfer to the MAW. With the current reductions in the DoD budget this cost-increase option may have a difficult time finding support. A second option would be to only transfer the aircrew whose billets are primarily focused around the flying mission of the Headquarters and Headquarters Squadron. These would include the Operations Officer, Assistant Operations Officer and the Director of Safety and Standardizations. The MAW would then need to provide the remaining aircrew from within by utilizing MAW staff to augment as aircrew.

Another option is to allow for a return of enlisted co-pilots. Enlisted pilots and co-pilots were a part of Marine Aviation from its beginning. The first enlisted Marines to be designated as pilots occurred in 1916, and they were utilized up until 1973.²⁹ Why the Marine Corps stopped using enlisted Marines as pilots is unclear, but now may be an ideal time to start the program anew. The civilian version of the UC-35 and C-12 are both considered single piloted aircraft in the civilian aviation industry. The implementation of enlisted pilots would provide a great recruiting tool for the Marine Corps while also saving money, and would furthermore provide the additional pilots needed to fly the OSA aircraft at the MAW. Ultimately, the decision on how to provide the manpower would have to be decided by the manpower division at Headquarters Marine Corps (HQMC),

but with multiple plausible solutions already discussed we can now look at how OSA could add to the warfighting mission.

OSA cannot replace tactical aircraft, but they can greatly increase the efficiency of overall air assets by freeing up tactical aircraft to fly their primary missions. It is not unheard of, or even uncommon, for a CH-53 or C-130 to fly a small payload or a few passengers' between destinations where a C-12 could have done the same flight with much more efficiency and at a great cost advantage. Discussions about cost savings during wartime are often met with resistance, but as protracted low-intensity conflicts such as Iraq and Afghanistan become more prevalent, fighting wars in a more efficient manner will become a fact of life. It costs \$12,761 per flight hour to fly a CH-53 and only \$1,132 for a C-12W. Also, because of the low altitudes CH-53's fly at, they are required to fly as a section of two aircraft, no matter how much or little they are carrying, therein doubling the cost. The CH-53 is a very powerful and capable aircraft, but for the movement of small groups of personnel, eight or less, it's not a responsible use of resources. The C-12 or UC-35 aircraft are a reliable and efficient alternative for movement of small groups of personnel and their equipment. They provide responsive transport for high priority cargo and passengers at a considerable cost savings.

The costs extend, and distort even more, beyond movement of troops and equipment. Our diplomatic relationships and our mutual interests extend the globe. It is likely that our future conflicts will continue to involve coalitions and this means an increased number of government officials surveying the front lines. In both Iraq and Afghanistan these small delegates are often shuttled around in helicopters such as the CH-53 at an exorbitant cost. Imagine, one three-hour flight to show two delegates a site:

\$37,000. Because helicopters are required to fly in a section of at least two aircraft the cost would rise to \$74,000. A C-12W could fly the same mission for \$3,396.

As mentioned earlier in this paper, OSA falls under assault support in the six functions of Marine Corps Aviation. According to MCWP 3-27 “OSA’s role in the six functions of Marine aviation falls under assault support, specifically, air logistic support, and air evacuation. OSA contributes to the assault support of MAGTF forces on the ground through air logistics support operations.”³⁰ While this is a great idea in theory it’s not currently being employed. According to the assault support section of MCWP 3-2, which is the Marine Corps doctrinal publication for aviation operations, OSA isn’t mentioned in this section. OSA isn’t mentioned once in the entire publication. The fact is that OSA is performing it’s mission everyday without being in this publication, but the lack of documentation is indicative of the fact that OSA is often an afterthought by Marine aviation planners and in order to ensure that the MAGTF gets the capabilities and efficiencies described above OSA must be moved under the MAW.

Shifting to the Pacific

In a speech to the Australian Parliament in 2011 President Obama announced the ‘pivot’ to the Pacific. As he stated, “The United States will play a larger and long-term role in shaping this region and its future, by upholding core principles and in close partnership with our allies and friends”³¹ One part of this ‘shaping’ is an increase in U.S. military presence in the region. The Marines in particular are expecting to increase their presence across the region, most notably in places like Australia. To this end the Marine Corps recently began six-month deployments to Darwin, Australia, with a plan to

increase the number of these deployed Marines to 2,500 troops.³² The Marines will also resume the Unit Deployment Program (UDP) to Okinawa, Japan. The UDP will include approximately 800 infantry Marines and several hundred Marines from the air wing.³³ This influx of over 1,000 Marines will increase the demand for OSA support on Okinawa. Two modernizations that would greatly increase the OSA capability in the region are the acquisition of an upgraded UC-35 and replacement for the C-9.

The UC-35 is a capable aircraft, but it has limited lift capability at maximum range. With full fuel tanks the aircraft can only carry 600 pounds of additional passenger and cargo weight. This limits the aircraft to carrying only two passengers with minimum baggage. By upgrading the UC-35 with an aircraft such as the Cessna Citation Sovereign, which was suggested at the 2012 OSA OAG, the number of passengers would increase to 12. This would greatly improve OSA's ability to support 10 to 12 man MedCap teams throughout a region extending across Guam, Thailand and Australia.

Another opportunity for improvement within the OSA wing is the C-9. The Marine Corps acquired the C-9s in 1975. They were originally scheduled for twenty-year service life, but today they have nearly doubled that. While these were state-of-art aircraft when they were purchased to replace the C117 in 1975, they are now rife with technological and capability limitations.³⁴ These limitations include outdated avionics equipment and substantially degraded lift capability. The C-9B was designed to carry 90 passengers, but the aircraft can currently carry less than 30 passengers on the longer flight legs such as California to Hawaii.³⁵ This often requires that two C-9Bs be assigned, doubling the cost for the flight. The C-40s, which the Navy has replaced all but two of their C-9s with, carries 121 passengers on this same leg. The C-40 is also capable of

carrying up to 40,000 lbs of cargo.³⁶ As our relationships with new allies expands, so to will the need to participate in more humanitarian efforts. This lift capability would be ideal for the frequent humanitarian missions the U.S. hopes to join in the Pacific.

At the 2012 Assault Support Operational Advisory Group (OAG) the cost savings of the C-40 was demonstrated with the following example. If 120 Marines were to be flown from Anderson Air Base, Guam to Utaphao, Thailand using a C-9 it would require a total of 25.5 flight hours, costing \$890 per passenger and a total mission cost of \$106,800. If that same mission were to be flown using a C-40 it would require a total of 6.6 flight hours, costing \$245 per flight hour and a total mission cost of \$29,400.³⁷ By using a C-40 to fly this mission the Marine Corps would save \$77,400. Utilizing the C-40 for the School of Advanced Warfighting flights to Europe and Asia alone would account for a large cost savings and increase in availability of aircraft for other tasking. Currently, this mission requires two C-9Bs to complete the mission when the mission could be completed with a single C-40B. Further, the C-40 would be ideal to support the UDP deployments from Hawaii to Okinawa. If the C-40 was utilized for these types of missions the cost savings would quickly justify the \$85M purchase cost.³⁸

Finally, the rotation of a C-9 (C-40) detachment in the Pacific needs to be considered. The C-40 is ideal for Pacific missions such as those mentioned above, but it is not cost efficient to fly the aircraft from the East coast of the United States each time they need to fly a mission in the Pacific. A detachment out of Hawaii, Guam or Okinawa could support operations during the higher demand seasons, such as UDP rotation periods or during major exercises such as Cobra Gold.³⁹ This would also allow the aircraft to

normalize operations in the region, which would better prepare them for extended operations in support of war or humanitarian operations.

Conclusion:

While our nation struggles to regain economic stability and control over the rising deficit, government spending will need to be reduced. Among the long list of plausible reductions, the Defense will be one of the most intensely scrutinized. At the macro level, what institutional changes need to be made in the face of regional and technocratic shifts in warfare? And inside of those larger systemic adaptations, what will be the on-the-ground shifts? What will it mean to each separate branch of the military community? The answers will not be simple, especially with the acknowledgement of the coexisting and conflicting relationship of major cuts coinciding with a major shift to the Pacific. Because of pre-existing perceptions of OSA as both wasteful and unnecessary for war fighting it stands vulnerably at the head of the line for budget hawks. However, with the pivot to the Pacific, OSA has the opportunity to demonstrate anew its merit and necessity. To demonstrate that they are cheap when compared to tactical assets, quick compared to helicopters, and efficient compared to commercial air. If OSA is going to assert itself as part of the future of the Marine Corps it will need to demonstrate these wartime capabilities and its ability to increase lift capability and efficiency to meet the new requirements in the Pacific.

Endnotes

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- ⁵ David Dyche, "Making Operational Support Airlift Ready for War," (research fellowship, Air University, 1995), 76.
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- ⁷ Robert Sherrod, *History of Marine Corps Aviation In World War II*. California (Presidio Press, 1952), 2.
- ⁸ Sherrod, 21.
- ⁹ Sherrod, 7.
- ¹⁰ David W. Wragg, *Airlift: A History of Military Air Transport* (California: Presidio Press, 1897), 11.
- ¹¹ Sherrod, 11.
- ¹² Sherrod, 21.
- ¹³ Sherrod, 27.
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- ¹⁵ Dyche, 21-22.
- ¹⁶ Robert Dorr, "R5C Commando saw little glory for critical WWII role," *Leatherneck*, March 15, 2004, <http://www.leatherneck.com/forums/showthread.php?13318-R5C-Commando-saw-little-glory-for-critical-WWII-role>
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- ²¹ U.S. Department of Defense. *DoD Policy on the Use of Government Aircraft and Air Travel*. Directive 4500.56P, May 18, 2011, 8, <http://www.dtic.mil/whs/directives/corres/pdf/450056p.pdf>.
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- ²³ Ibid, A-2.
- ²⁴ Ibid, A-3.
- ²⁵ Ibid, A-4.
- ²⁶ U.S. Department of Defense. *Operational Support Airlift*, DoD Inst 4500.43, 11-12, <http://www.dtic.mil/whs/directives/corres/pdf/450043p.pdf>.

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- ²⁷ David D Dyche *Making Operational Support Airlift Ready for War*
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- ²⁹ Dave Turner, *Enlisted Naval Aviation Pilots (Kentucky: Turner Publishing Company, 1995)*, 12-16.
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Figure 1
 (All figures taken from Headquarters U.S. Marine Corps. *Operational Support Airlift*.
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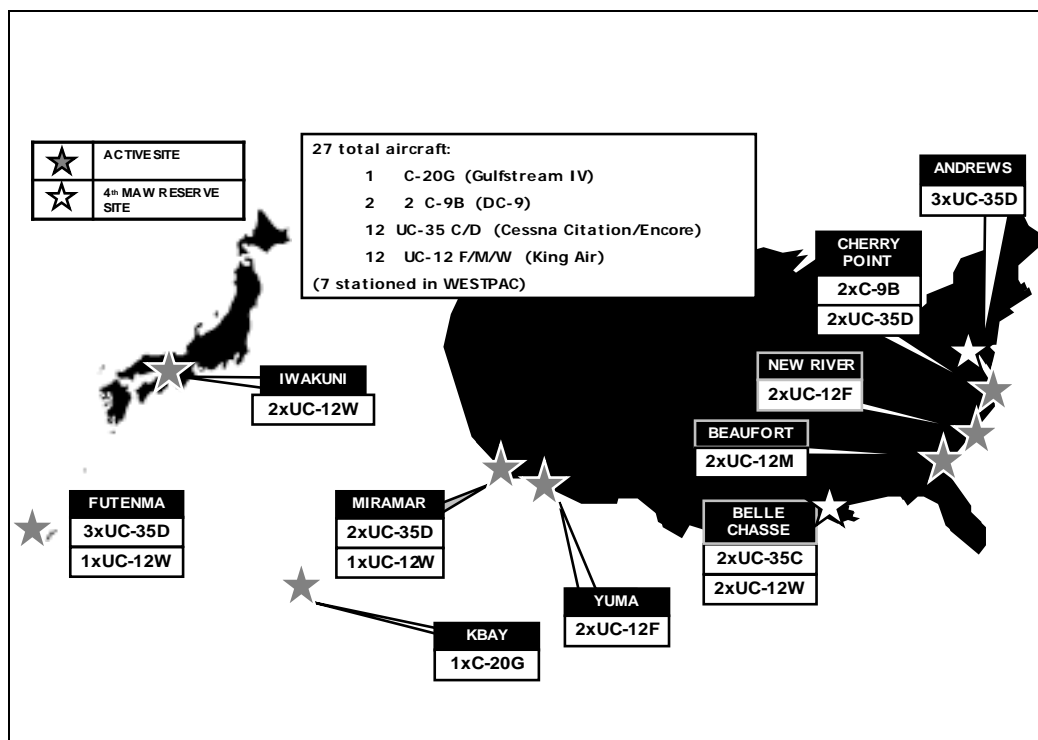


Figure 2



Figure 3



Figure 4



Figure 5



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